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09/620,287	07/20/2000	Robert Samuel Smith	RSSU2	3438

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EXAMINER

BARNES, CRYSTAL J

ART UNIT	PAPER NUMBER
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2121

DATE MAILED: 04/21/2004

10

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application

09/620,287

Applicant(s)

SMITH, ROBERT SAMUEL

Examiner

Crystal J. Barnes

Art Unit

2121

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 20 July 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☒ Claim(s) 1-16 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 July 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### DETAILED ACTION

1. The following is an initial Office Action upon examination of the above-identified application on the merits. Claims 1-16 are pending in this application.

#### *Drawings*

2. The informal drawings are not of sufficient quality to permit examination. Accordingly, new drawings are required in reply to this Office action.

Applicant is given a THREE MONTH time period to submit new drawings in compliance with 37 CFR 1.81. Extensions of time may be obtained under the provisions of 37 CFR 1.136(a). Failure to timely submit new drawings will result in **ABANDONMENT** of the application.

#### *Specification*

3. The abstract of the disclosure is objected to because of the typographical error ("1.") on line 2 and grammatical error (". " before "a") on line 3. Correction is required. See MPEP § 608.01(b).
4. The disclosure is objected to because of the following informalities:

- a. spelling errors ("dat") on page 1 first paragraph, ("focused") on page 2 last paragraph, ("focusing") on page 6 second paragraph;
- b. grammatical errors ("on submarines" should be "submarines") on page 1 second paragraph, ("a inverters 39" should be "inverters 39") on page 8 last line, ("a rectifiers 49" should be "rectifiers 49") on page 9 second paragraph; and
- c. typographical errors ("6.016,385") on page 1 third paragraph, ("To") on page 2 line 1, ("," after "INVENTION"; "," after "audial signal"; space in "electromagnetic"; "." after radio; "." after "version" "," after "source"; space before "an intruder") on page 3, (space between "U.S. Patent"; "." after "art") on page 6 second and third paragraphs, ("," after "2" and "A"; space after "30") on page 7 third paragraph, (space between "fig. 4") on page 8 third paragraph, ("," after "41") on page 9 last line, ("--" between "figs. 3.1 - 3.7"; "," between "fig. 3.3"; "." after "generated") on page 10 second and third paragraphs, ("," after "52"; "." after "formula") on page 11 line 1 and third paragraph, (space after "(seven are shown)"; "." after "monitor") on page 12 line 2 and second paragraph.

5. A substitute specification including the claims is required pursuant to 37 CFR 1.125(a) because the number of the amendments render it difficult to consider the application or to arrange the papers for printing or copying.

A substitute specification filed under 37 CFR 1.125(a) must only contain subject matter from the original specification and any previously entered amendment under 37 CFR 1.121. If the substitute specification contains additional subject matter not of record, the substitute specification must be filed under 37 CFR 1.125(b) and (c)

### *Claim Objections*

6. Claims 1-16 are objected to because of the following informalities:
- a. claims 1, 6 and 9-11 - the term "audial" in is unclear, inexact, or verbose; for purposes of this Office Action, "audial" has been interpreted to mean "audible";
  - b. claim 1, line 4 and claims 2 and 13, line 3 - semicolons are used incorrectly;
  - c. claim 7, line 5 and claim 16, line 7 - a colon is used incorrectly;

- d. claim 7, line 9 and claims 9, 13 and 15, line 1 - typographical errors (".." after claim numbers);
- e. page 19 line 2 and last line - a period is used incorrectly;
- f. page 22 line 1 - a period is missing;
- g. claim 16 - the terms "omnidirectional" in line 3 and "selected" in line 5 are misspelled.

Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

7. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

8. Claims 2, 3, 9, 12 and 13 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for a surveillance system, does not reasonably provide enablement for unidirectional lens, omnidirectional detectors and power means. The specification does not enable any person skilled in the art to

which it pertains, or with which it is most nearly connected, to use the invention commensurate in scope with these claims.

As per claims 2, 3 and 13, the specification does not describe unidirectional lens.

As per claim 9, the specification does not describe a distance D.

As per claim 12, the specification does not describe or provide enablement for a source of power (power means).

9. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

10. Claim 9 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between the elements. See MPEP § 2172.01. The omitted element C (last line of the claim on page 19) is not defined in the claim.

11. Claims 7 and 8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

12. Claim 7 recites the limitations "said plurality of detectors", "said detector", and "said array of detectors" in paragraphs 2, 7 and 8 of the claim. There is insufficient antecedent basis for this limitation in the claim.

13. Claim 8 recites the limitation "said array of detectors" in line 2 of the claim. There is insufficient antecedent basis for this limitation in the claim.

*Claim Rejections - 35 USC § 102*

14. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

15. Claims 1, 10, 11, 14 and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by USPN 5,594,494 to Okada et al.



As per claim 1, the Okada et al. reference discloses a surveillance system which comprises a camera means (see column 3 lines 22-25, "television camera 12") for generating an image signal ("images") of a field of view; an audial means (see column 3 lines 20-22, "microphones 11R, 11L") for detecting the direction of a source of sound ("speech of attendants") located in said field of view, relative to a location of said camera ("television camera 12"); signal selecting means (see column 3 lines 25-30 and 47-50, "picture estimation coding section 10") arranged in operable combination with said audial means ("microphones 11R, 11L") and said camera means ("television camera 12") for selecting a portion of said image signal ("video signal") generated from an area (see column 3 lines 15-17, "conference room") containing said source of sound ("audio signals"); monitor (see column 4 lines 62-65, "monitor") coupled to said signal selecting means ("picture estimation coding section 10") for presenting an image (see column 3 lines 50-53, "picture data") of said area ("conference room") containing said source of sound ("audio signals").

As per claim 10, the Okada et al. reference discloses a support (see column 3 lines 22-24, "in front of table 9") for said camera means ("television camera 12"); each conferee ("attendant") positionable at a respective one of a group of locations in said field of view of said camera means ("television camera 12") and each

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conferee ("attendant") being a source of sound ("speech") from said respective location; said audial means (see column 3 lines 20-22, "sound-sensitive means") comprising a group of microphones ("microphones 11R, 11L"), each positioned at a respective one of said locations ("on table 9") and corresponding to said direction ("laterally at equal intervals"), being one of a group of directions of said conferees ("attendants A1-A3") relative to said camera means ("television camera 12"); said signal selecting means (see column 3 lines 25-30 and 47-50, "picture estimation coding section 10") arranged in operable combination with said group of microphones ("microphones 11R, 11L") and said camera means ("television camera 12") for selecting a portion of said image signal (see column 3 lines 35-38, "position of speaker's face") generated from one of said locations ("area covered by television camera 12") in response to sound (see column 3 lines 57-63, "sound source position estimating section 13") generated at said location (see column 4 lines 4-10, "speaker's position") by one of said conferees ("attendants, speaker") at said location ("speaker's position") for presentation on said monitor (see column 4 lines 62-65, "monitor").

As per claim 11, the Okada et al. reference discloses a support (see column 3 lines 22-24, "in front of table 9") for said camera means ("television camera 12");

each conferee ("attendant") positionable at a respective one of a group of locations in said field of view of said camera means ("television camera 12") and each conferee ("attendant") being a source of sound ("speech") from said respective location; said audial means (see column 3 lines 20-22, "sound-sensitive means") comprising a group of microphones ("microphones 11R, 11L"), each positioned at a respective one of said locations ("on table 9") and corresponding to said direction ("laterally at equal intervals"), being one of a group of directions of said conferees ("attendants A1-A3") relative to said camera means ("television camera 12"); said signal selecting means (see column 3 lines 25-30 and 47-50, "picture estimation coding section 10") arranged in operable combination with said group of microphones ("microphones 11R, 11L") and said camera means ("television camera 12") for selecting a portion of said image signal (see column 3 lines 35-38, "position of speaker's face") generated from one of said locations ("area covered by television camera 12") for presentation on said monitor (see column 4 lines 62-65, "monitor").

As per claim 14, the Okada et al. reference discloses said support means comprises a table (see column 3 lines 19-24, "table 9").

As per claim 15, the Okada et al. reference discloses said support means comprises a table (see column 3 lines 19-24, "table 9").

16. Claim 16 is rejected under 35 U.S.C. 102(e) as being anticipated by USPN 6,593,956 B1 to Potts et al.

As per claim 16, the Potts et al. reference discloses a method for monitoring a conference of a group of conferees which comprises positioning said group of conferees (see column 6 lines 25-27, "speaker") at respective locations (see column 6 lines 28-12, "location of speaker relative to reference point") around a video camera means ("camera 14") having a field of view providing that each conferee ("speaker") is in said field of view of said camera means ("camera 14") wherein said camera means ("camera 14") has a video signal control (see column 6 lines 45-50, "audio and video signal processing unit 20") for projecting onto a video monitor (see column 6 lines 54-60, "receiving video conference system") a selected section of said video signal ("video signals 24") corresponding to a selected one of said locations ("location of speaker relative to reference point"); positioning at each location one of a group of audio detectors (see column 6 lines 17-22, "microphones 12"); arranging each said audio detector ("microphones 12") in operable combination

with said camera means ("camera 14") to activate said video signal control ("audio and video signal processing unit 20") to project onto said video monitor ("receiving video conference system") an image ("video image") of said location ("location of speaker relative to reference point") when one of said conferees ("speaker") located at said location ("location of speaker relative to reference point") generates a sound ("audio signals 22") received by said respective audio detector ("microphones 12").

*Claim Rejections - 35 USC § 103*

17. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

18. Claims 2-5 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 5,594,494 to Okada et al. in view of USPN 6,304,285 B1 to Geng.

As per claim 2, the Okada reference discloses a device similar to applicant's. However, the Okada et al. reference does not expressly disclose said camera

means comprises an unidirectional lens for forming an image of a panoramic field of view; a CCD array arranged to receive said image and generate an image signal for transmittal to said monitor subject to control by said signal selecting means.

The Geng reference discloses

(see column 4 lines 45-50, "... unique feature of the Omni-Mirror ... sensed by the CCD camera ... single virtual viewpoint O regardless of the location of the projection point M on the mirror surface.")

(see column 5 lines 5-10, "... simple closed-form relationship between omnidirectional viewing angle and CCD camera's viewing angle ...")

(see column 5 lines 45-49, "... Omni 3D camera system ... generation of 360° projection illumination through a convex mirror.")

(see column 6 lines 15-20, "... 360° omnidirectional projecting angle, we use an Omni-Mirror ...")

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to modify the television camera taught by the Okada et al. reference with the Omni-Mirror and CCD camera taught by the Geng reference to acquire images with a field of view covering 360°.

One of ordinary skill in the art would have been motivated to acquire images with a field of view covering 360° to offer unique solutions to many practical systems that need simultaneous 360° viewing angle and three dimensional measurement capabilities.

As per claim 3, the Okada et al. reference discloses said camera means comprises an unidirectional lens for forming a panoramic field of view around said camera; a CCD array arranged to receive said image and generate an image signal; video memory means (see column 3 lines 50-55, "image memory 16") coupled to said CCD array for storing said image signal; said video memory ("image memory 16") coupled to said signal selection means (see column 3 lines 25-30 and 47-50, "picture estimation coding section 10") for transmitting said portion to said monitor (see column 4 lines 62-65, "monitor").

The Okada et al. reference does not expressly disclose said camera means comprises an unidirectional lens for forming a panoramic field of view around said camera; a CCD array arranged to receive said image and generate an image signal.

The Geng reference discloses

(see column 4 lines 45-50, "... unique feature of the Omni-Mirror ... sensed by the CCD camera ... single virtual viewpoint *O* regardless of the location of the projection point *M* on the mirror surface.")

(see column 5 lines 5-10, "... simple closed-form relationship between omnidirectional viewing angle and CCD camera's viewing angle ...")

(see column 5 lines 45-49, "... Omni 3D camera system ... generation of 360° projection illumination through a convex mirror.")

(see column 6 lines 15-20, "... 360° omnidirectional projecting angle, we use an Omni-Mirror ...")

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to modify the television camera taught by the Okada et al. reference with the Omni-Mirror and CCD camera taught by the Geng reference to acquire images with a field of view covering 360°.

One of ordinary skill in the art would have been motivated to acquire images with a field of view covering 360° to offer unique solutions to many practical systems that need simultaneous 360° viewing angle and three dimensional measurement capabilities.



As per claim 4, the Okada reference discloses a device similar to applicant's. However, the Okada et al. reference does not expressly disclose said camera means comprises an omnidirectional lens for forming an image of a 360° field of view; a CCD array arranged to receive said image and generate an image signal for transmittal to said monitor subject to control by said signal selecting means.

The Geng reference discloses

(see column 4 lines 45-50, "... unique feature of the Omni-Mirror ... sensed by the CCD camera ... single virtual viewpoint O regardless of the location of the projection point M on the mirror surface.")

(see column 5 lines 5-10, "... simple closed-form relationship between omnidirectional viewing angle and CCD camera's viewing angle ...")

(see column 5 lines 45-49, "... Omni 3D camera system ... generation of 360° projection illumination through a convex mirror.")

(see column 6 lines 15-20, "... 360° omnidirectional projecting angle, we use an Omni-Mirror ...")

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to modify the television camera taught by the Okada et

al. reference with the Omni-Mirror and CCD camera taught by the Geng reference to acquire images with a field of view covering 360°.

One of ordinary skill in the art would have been motivated to acquire images with a field of view covering 360° to offer unique solutions to many practical systems that need simultaneous 360° viewing angle and three dimensional measurement capabilities.

As per claim 5, the Okada et al. reference discloses said camera means comprises an omnidirectional lens for forming an image of a 360° field of view around said camera; a CCD array arranged to receive said image and generate an image signal; video memory means (see column 3 lines 50-55, "image memory 16") coupled to said CCD array for storing said image signal; said video memory ("image memory 16") coupled to said signal selection means (see column 3 lines 25-30 and 47-50, "picture estimation coding section 10") for transmitting said portion to said monitor (see column 4 lines 62-65, "monitor").

The Okada et al. reference does not expressly disclose said camera means comprises an omnidirectional lens for forming an image of a 360° field of view around said camera; a CCD array arranged to receive said image and generate an image signal.

The Geng reference discloses

(see column 4 lines 45-50, "... unique feature of the Omni-Mirror ... sensed by the CCD camera ... single virtual viewpoint *O* regardless of the location of the projection point *M* on the mirror surface.")

(see column 5 lines 5-10, "... simple closed-form relationship between omnidirectional viewing angle and CCD camera's viewing angle ...")

(see column 5 lines 45-49, "... Omni 3D camera system ... generation of 360° projection illumination through a convex mirror.")

(see column 6 lines 15-20, "... 360° omnidirectional projecting angle, we use an Omni-Mirror ...")

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to modify the television camera taught by the Okada et al. reference with the Omni-Mirror and CCD camera taught by the Geng reference to acquire images with a field of view covering 360°.

One of ordinary skill in the art would have been motivated to acquire images with a field of view covering 360° to offer unique solutions to many practical systems that need simultaneous 360° viewing angle and three dimensional measurement capabilities.

As per claim 13, the rejection of claim 2 is incorporated and further claim 13 contains limitations recited in claim 2; therefore claim 13 is rejected under the same rationale as claim 2.

19. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 5,594,494 to Okada et al. in view of USPN 6,304,285 B1 to Geng as applied to claims 4 and 5 above, and further in view of US Pub. No. 2001/0015751 A1 to Geng.

As per claim 6, as set forth above the Okada reference discloses a device similar to applicant's. The Okada et al. reference discloses said audial array comprises a plurality of audial detectors circumferentially arranged around said omnidirectional lens; said audial array having a central axis coincident with said omnidirectional lens; circuit means (see column 3 lines 47-50, "picture estimation coding circuit 10") for generating a signal representing an address in said video memory (see column 3 lines 50-55, "image memory 16") corresponding to said direction of said source of sound (see column 3 lines 55-63, "source sound position") relative to said camera (see column 4 lines 45-55, "'television camera 12") and applying image data (see column 4 lines 56-60, "video image") stored at said

address to said monitor (see column 4 lines 62-65, "monitor") for display of said area ("area") including said sound source ("sound source").

Neither the Okada et al. reference nor the '285 Geng reference discloses said audial array comprises a plurality of audial detectors circumferentially arranged around said omnidirectional lens; said audial array having a central axis coincident with said omnidirectional lens.

The '751 Geng reference discloses

(see [0052], "... omnidirectional image sensor such as camera 30 with an acoustic sensor such as selectively switchable microphone, directional microphone, or microphone array 104, so that the view direction of the perspective window can be adjusted to focus on a person speaking. Combining the microphone array 104 with the omnidirectional image sensor 30 ... automatic adjustment of a perspective viewing window toward the active speaker ... based on acoustic signals detected by an array of spatially-distributed microphones.")

(see [0053], "... multiple numbers of microphones can be placed along the periphery of the image unit to form the array.")

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to further modify the apparatus taught by both the

Okada et al. and the '285 Geng references with the omnidirectional image sensor/acoustic sensor implementation taught by the '751 Geng reference to obtain images and audio over an entire field of view simultaneously.

One of ordinary skill in the art would have been motivated to obtain images and audio over an entire field of view simultaneously to offer unique solutions to many practical systems that need simultaneous 360° viewing angle and three dimensional measurement capabilities.

20. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 5,594,494 to Okada et al. in view of US Pub. No. 2001/0015751 A1 to Geng.

As per claim 12, the Okada et al. reference discloses said signal selecting means (see column 3 lines 25-30 and 47-50, "picture estimation coding section 10") comprises a group of switches, one of said switches connecting a power means to one of said microphones (see column 3 lines 20-22, "sound-sensitive means") respectively whereby said power means enables said microphone ("sound-sensitive means") to convert an audio signal (see column 3 lines 29-33, "audio signals") to an electrical signal ("digital signals") for transmission ("transmission line") to said signal selecting means ("picture estimation coding section 10") and to select said

portion of said image signal ("encoded video signal") corresponding to said location (see column 3 lines 35-40, "position of speaker's face") where said microphone ("sound-sensitive means") is located for presentation on said monitor (see column 4 lines 62-65, "monitor") when said respective switch is closed; said group of switches accessible to an operator enabling said operator to select any one of said sections for transmitting an image and sound.

The Okada et al. reference does not expressly disclose power means and a group of switches accessible to an operator enabling said operator to select any one of said sections for transmitting an image and sound.

The '751 Geng reference discloses

(see [0052], "... omnidirectional image sensor such as camera 30 with an acoustic sensor such as selectively switchable microphone, directional microphone, or microphone array 104, so that the view direction of the perspective window can be adjusted to focus on a person speaking. Combining the microphone array 104 with the omnidirectional image sensor 30 ... automatic adjustment of a perspective viewing window toward the active speaker ... based on acoustic signals detected by an array of spatially-distributed microphones.")

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to modify the apparatus taught by the Okada et al. reference with the omnidirectional image sensor/acoustic sensor implementation taught by the '751 Geng reference to selectively obtain images and audio over an entire field of view simultaneously.

One of ordinary skill in the art would have been motivated to selectively obtain images and audio over an entire field of view simultaneously to offer unique solutions to many practical systems that need simultaneous 360° viewing angle and three dimensional measurement capabilities.

*Allowable Subject Matter*

21. The following is a statement of reasons for the indication of allowable subject matter:

As per claim 7, the prior art of record taken alone or in combination fail to teach selection means connected to said register comprising means for selecting from said video memory said portion of said image signal generated from an area containing said source of sound and having an address stored in said register



whereby a source of sound generates a sound wave that is incident on a nearest detector-enabling said selection circuit to read said address of said detector.

As per claim 8, the prior art of record taken alone or in combination fail to teach address register having an output terminal configured to emit an address signal responsive to a null signal from one of said rectifiers.

### *Conclusion*

22. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following patents are cited to further show the state of the art with respect to simultaneous video and audio communication in general:

USPN 6,707,489 B1 to Maeng et al.

USPN 6,618,073 B1 to Lambert et al.

USPN 6,569,732 B1 to Chang et al.

USPN 6,185,152 B1 to Shen

USPN 5,940,118 to Van Schyndel

USPN 5,798,798 to Rector et al.

USPN 5,734,590 to Tebbe

USPN 5,561,518 to Parker et al.

USPN 4,862,278 to Dann et al.


USPN 4,360, 827 to Braun

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Crystal J. Barnes whose telephone number is 703.306.5448. The examiner can normally be reached on Monday-Friday alternate Mondays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anthony Knight can be reached on 703.308.3179. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

cjb  
19 April 2004



**Anthony Knight**  
Supervisory Patent Examiner  
Group 3600